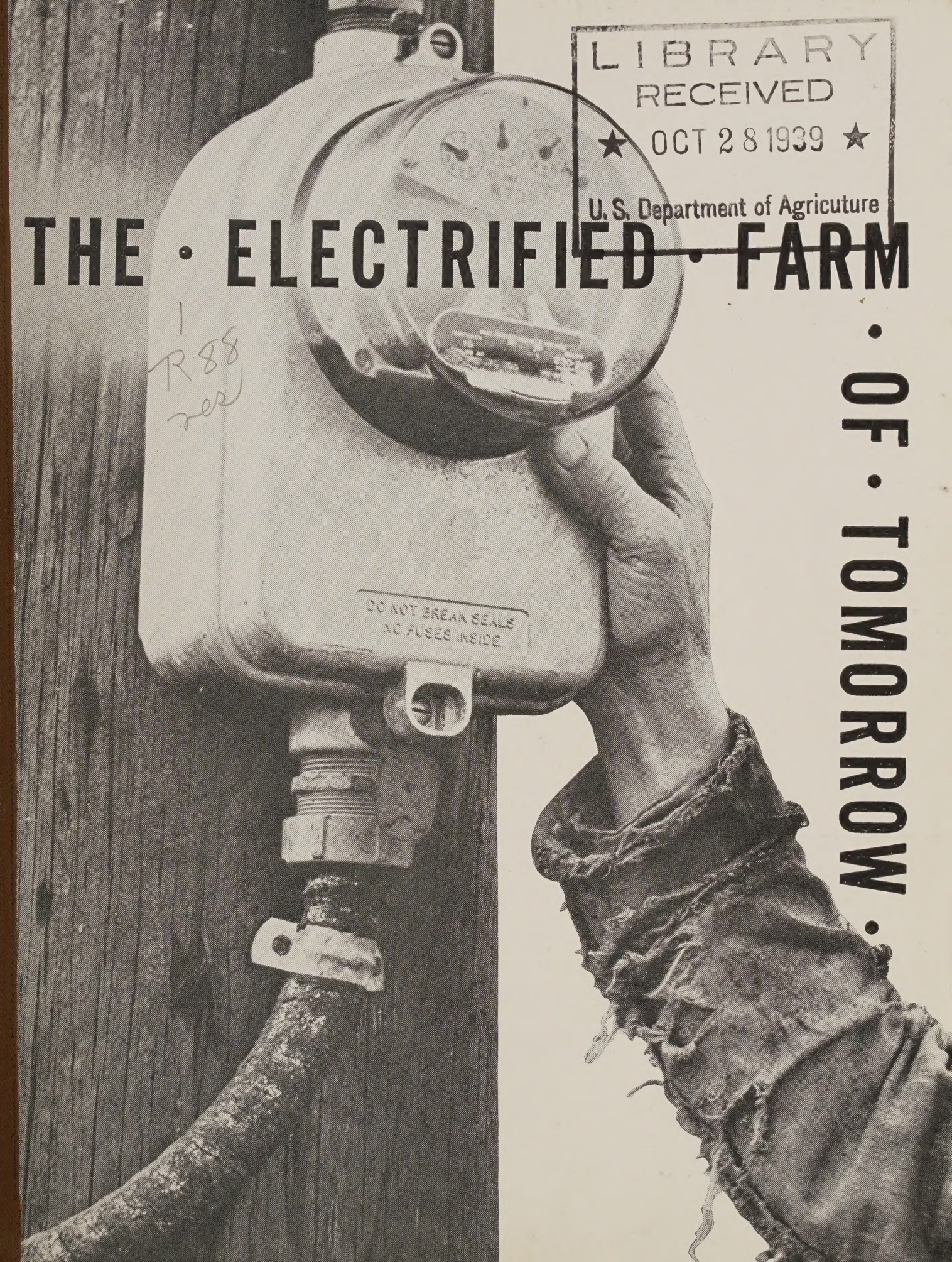
U.S. RURAL ELECTRIFICATION ADMINISTRATION

The electrified farm of tomorrow.

GPO 8—7671

THE · ELECTRIFIED · FARM · OF · TOMORROW ·



THE ELECTRIFIED FARM OF TOMORROW

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REA believes in the social soundness of the rural electrification program set up by the Congress. It believes in the economic wisdom of bringing farm families out of the dark into the light, out of stark drudgery into normal effort, out of a past of unnecessary denial into a present of reasonable convenience. These are giant steps for many people whom it serves.

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RURAL ELECTRIFICATION ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

JULY 1939

"Only a beginning has been made"

• Rural electrification in the United States has advanced with the swiftness of seven-league strides since 1935. Yet the road ahead is longer than the road behind.

The National Resources Committee reported as recently as 1937 that only a beginning had been made in rural electrification. Nevertheless, that beginning marks the start of steady progress toward the electrified farms of tomorrow.

Most farmers know—to their sorrow—what it is like to do without electricity. For decades electricity was denied rural people for the simple reason that they lived in the country. The denial was an old, old story.

The coming of the Rural Electrification Administration in 1935 changed the story. For the first time farmers no longer had to beg for electricity from uninterested private utilities. With the REA, they could get electricity through their own efforts. The dead-end sign on the road to the future was removed.

In May of 1935, President Roosevelt created the Rural Electrification Administration as an emergency agency to lend money to bring electricity to farms. Twelve months later, the Congress of the United

States decided on a measured 10-year program of rural electrical development which looked forward to the expenditure of $40,000,000 each year. In 1938 the Congress made a special appropriation of $100,000,000 extra for 1 year. By the middle of 1939, out of REA's several appropriations, well over $225,000,000 had been allotted for rural line construction—so swiftly did the program develop. Every dollar has been an investment in America's rural resources.

Up until 1935 the refusal of the private utilities to supply electricity to the bulk of American farmers acted as a log jam in the stream of agricultural progress. Out of 6,800,000 farms, only 10 percent had received highline service during 50 years of utility history. Said another way, the failure to receive dependable electric service meant that millions of American farmers had chiefly oil lamps to light the early morning darkness, chiefly hands or the wind to pump water, chiefly outhouses in the cold out-

doors . . . and drudgery almost without end. They were living in a period long outgrown.

After 1935 the beginnings of far-reaching change were made. From 1935 to the end of 1938 the number of farms getting highline service doubled; 2 farms in 10 had service, instead of 1 in 10. This increase was due both to REA and to private utilities, for every mile of REA line acted as a spur to private utility companies, and the rural power market suddenly seemed attractive. The key log had been blasted from the jam.

In the few short years since May 1935, 115,000 miles of REA line have been strung across the face of America—almost enough to cross and recross the continent 50 times—and allotments made for 110,000 miles of line more. North, East, South, and West, REA has already brought electric power to almost a million and a half rural people. In 44 States the new might of electricity has been added to the Nation's basic agricultural reserves.

ELECTRICITY THE CO·OP WAY

All this has been done by farmers, working through some 635 cooperative electric organizations and the REA. Because the greatest demand has come from such groups, REA has made over 90 percent of its project allotments to cooperatives. It has also lent money to public power districts, municipalities, private utilities, and others.

REA CO·OPS have tapped many different sources of power. About 62 percent get power from private utilities; 21 percent get power from municipal plants; 9 percent get power from their own generating plants (built with REA funds when no other source of power is at hand or when wholesale rates are too high); 4 percent get power from the TVA; and 4 percent get power from other sources.

REA electricity once secured, farmers begin immediately to put it to work. They give their new hired hand heavy jobs on the farm and in the farm home.

REA CO·OP members have learned new methods of building income with electricity. To do these things, they have bought labor-saving and money-making appliances. Following REA suggestions, manufacturers cooperated in distributing electrical products more widely in rural areas—often at lower prices. Surveys on a random selection of REA projects showed, after 8 months' use of electricity, that a degree of appliance "saturation" had been achieved equal to or above the normal "saturation" in cities after 20 years of utility effort. Rates based on costs have helped make this achievement possible.

But the REA has done more than light the country's dark spots. It has brought to rural people the material advantages enjoyed by others. Because it has stressed cooperation, it has strengthened democracy. It has explored new methods in cooperative action, and charted a new standard of farm living. For the electric industry, and industry in general, it has meant new markets, and for farmers, lower prices

on electrical products. Thus it has shown industry new ways to serve agriculture, and new ways to serve rural people.

What cooperative rural electrification means to democracy is found in the REA CO·OP slogan: "Members—not customers." It signifies participation by individual farm men and women in action for the common welfare. The best interests of the group become the best interests of the individual. REA's "cooperative consumers" are a new force for American democracy.

"I realize the miracle——"

• With the coming of REA, an old timer—the son of a pioneer—wrote that at last he realized the miracle of electricity on the farm. Few pioneers ever dreamed of that miracle and its power to transform the farm.

What can electricity do on the farm of tomorrow?

That question is best answered in terms of what electricity can do right now on the farm of today—

can do, and is doing on advanced farms. Already more than 200 farm uses of electricity have been developed.

What is an electrified farm like? Take a look at the farm home first—the kind of farm home equal in comfort to a good city home.

If you arrive at night, you will find a yard light burning to show your way across the front porch and help you locate the electric doorbell. Inside, you will get a sense of welcome and pleasant atmosphere from the warmly shaded lamps and the good music coming from the radio. If you are tired and dusty there will be running water close at hand in a modern bathroom—water circulated by an electric pump and warmed by an electric heater. Of course you are hungry—and you will find milk kept sweet by an electric refrigerator, bacon and eggs cooked for you in a jiffy on the electric range, or perhaps waffles stirred up in an electric mixer and baked in an electric waffle-iron. When the electric clock says bedtime,

you will turn in for the night. In the morning, you will get a quick shave with an electric razor (or a quick curl with an electric curling iron, perhaps). Then, when you go down to breakfast, you will find that the electric percolator and the electric toaster are helping prepare your food.

A small electric churn may be humming busily at top speed. If the day is Monday, you will watch the electric washing-machine put to work, and after a while, an electric flat-iron and an electric ironer will speedily take over. An electric sewing machine is at hand to do the mending. The whirr of an electric sweeper will still be singing in your ears after you start out to the barn.

If you had made your visit only a few years ago, you might have found things quite different. Perhaps you would have stumbled over the porch in the darkness and inside found only a few smoky coal-oil lamps. You might have been able to get music from a foot-bellows organ or a player piano, but you would have

missed out on market reports altogether. To wash off your grime some hefty pumping and water carrying would be necessary. Your hunger might have waited until wood was chopped and a fire built in the big wood-burning stove. The milk had to come from the spring-house and might be just a little sour. Then water would have to be heated for the dishes. For breakfast it would have been the same story over again.

The churning would have seemed endless, and left aching arms. The washing and ironing with scrub board, tub, and sadiron would have been torturous and the result—aching backs. And when you started out to the barn you would be sneezing from the irritating dust stirred up by an old-fashioned broom.

ELECTRICITY AND THE FARM PLANT

What will you find in the yard of the electrified farm?

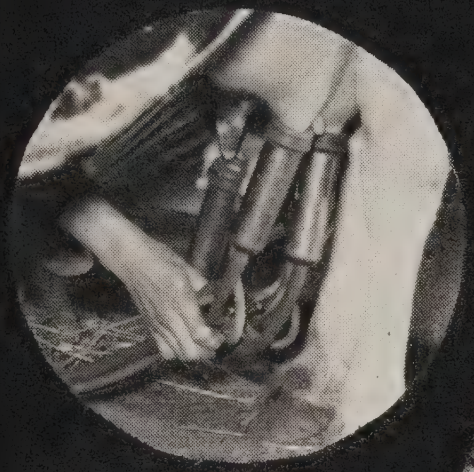
You will note with approval the floodlights for night and early morning work. And you will spot immedi-

ately the portable electric motor which can grind feed, cut ensilage, saw wood, and do a dozen other jobs—almost at will. In the dairy barn you will be impressed with the electric milking machine, the electrically pumped running water for the cows, the ample lighting, electric hay hoist, electric clipper, and electric ventilating fans. If you watch the window and door screens, you will discover that they are electrified to kill flies. And if you look about you closely enough, you will see an automatic electric siren to warn in case of fire.

If the barn is clean, the milk house is spotless. There you will find an electric milk-cooling system, an electric cream separator, perhaps a large electric churn, and plenty of electric lights. The feed shed has feed grinder, mixer, and corn sheller—all electrically driven—and electric lights. The poultry house may surprise you because an automatic electric brooder does the work of many a mother hen. Electricity increases egg production—by an electric

With electricity, farm families are no longer isolated from many of the comforts and conveniences of modern city life. . . . . Highline electric service releases the rural housewife from the drudgery of the past and opens up a new standard of living for the farm of tomorrow

In a power age, when muscle is dwarfed by electricity, the work of the farm is still borne too much by human backs and arms. Farmers, to hold their own with industry, must apply twentieth century production methods to agriculture. Electricity can bring industrial efficiency to the farm.



water heater to make the flock drink more water in winter, by electric lights to burn late and early on short winter days, and by ultraviolet light to substitute for lost sunlight and keep the poultry healthy. There is also an electric pig brooder, used to save very little pigs from being chilled or crushed; and an electric stock-tank heater, to insure ice-free water in winter for cattle.

The farm shop you will find equipped with good bright lights, saw, grindstone, drill press, soldering irons, and other electric tools to make the endless necessary repairs of a going farm. When you walk about the farm, you will see electric hotbeds to start plants ahead of season; and in the orchard you will discover electric insect traps equipped with different colored lights to attract different kinds of insects. And finally, you will be surprised to learn that a single-wire electrified fence keeps the stock where they belong and makes for easy pasture rotation, hogging down corn, and the like.

A few years ago things would not have been like this. The farmer worked in half light and in darkness. A windmill was likely to be the chief source of power for pumping water to livestock, and a balky gasoline engine the power for cutting, grinding, or sawing. The cows were milked by hand, and keeping the milk cool and fresh was a serious problem. There was constant fire danger because of oil lamps and lack of running water. The chickens were an endless source of worry; brooders overheated or underheated, and winter always meant a sharp decline in egg production. The tools in the shop were slow to handle and inefficiently powered. Permanent fences could not be shifted to allow use of feed left in the fields or to shut off eroded areas from grazing. Work on the farm plant lumbered along, taking a great toll in time and labor.

But electricity changes more than the farm. It changes the rural community almost as much. It offers new opportunities to rural industry through new

efficiency and decreased costs. Rural electricity proves attractive to such industries as creameries, garages, canneries, refrigeration plants, tobacco-drying plants, and agricultural produce-grading plants. To the once isolated village, electricity brings many of the benefits of the outside world—street lights, radio, fire-alarm systems, and the like. To the rural school, electric power adds new vitality, to the rural church new sociability, to the rural hospital the new equipment of modern medicine.

The farms of yesterday and tomorrow differ greatly as places to live and work. Electricity has provided energy undreamed of by the early settlers. Yet modern farmers do not regard electricity as a luxury; they have learned that it puts cash in their pockets.

Electricity does more work in less time. The electric washer, for example, can do almost any laundry with far less labor in half the time of the scrubboard way—leaving the housewife free for leisure and for other tasks. Though the electric

milker saves little if any labor time with small herds of low-producing cows, it saves up to two-thirds or even three-quarters of total labor time with large herds. Frequently, by using electricity the farmer can increase his herd and his income without increasing his running costs. The electric milker always reduces out-and-out drudgery.

For the farmer, the versatility of electricity is its greatest asset. It is a jack-of-all-jobs and good at all. It supplants grinding human labor. It releases farm people to new freedom. It is the key which unlocks the front gate and the barn door of the farm of tomorrow.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"I believe we can serve more farmers this way—"

● Farmers have faith in REA cooperative electricity. They have made that faith clear. Many of them feel like the farmer who said he believed more rural people could be served the REA CO·OP way than

any other—because they personally had a part in it.

Just how do farmers get electricity with REA help?

REA projects usually start when farmers need electricity so keenly that they get together to do something about it. Experience has shown that co-ops—more than other groups—are able and willing to take advantage of REA loans. When farmers are without electric service and without chance of getting it, and can organize a responsible group, then the REA is ready to talk power.

Likely power consumption is surveyed and the proposed project's economic soundness is well outlined before the REA steps into the picture with an allotment. The allotment is a loan covering the entire cost of the distribution line with 20 years to repay at not more than 3 percent interest.

After the allotment is made, problems multiply. The REA aids in setting up local organization for both construction and operation. It helps on the technical side, through finding sources of power, engineers, and

contractors. Its own engineers inspect construction in order to make sure of high quality. Its lawyers review contracts to avoid legal snarls. It makes loans to finance farm wiring and plumbing costs, when need is shown. These latter loans are on a 5-year basis. It controls the disbursement of Government rural electrification funds.

When the line is completed and the power is ready to be turned on, local people frequently hold an energizing ceremony to show what the new electricity means to their lives. More than one group has expressed this symbolically by having a funeral, with little grief, for a kerosene lamp. Meetings are held to discuss wiring, plumbing, and general uses of electricity on the farm. Local electrical dealers cooperate in a general educational program. By the end of the energizing celebration, farm people have learned many ways to use their new power.

After the project is in operation, REA specialists assist with problems of management and operation.

Field auditors examine books and give advice on financial matters, and utilization experts help with problems of use and load building. Demonstrations are held to keep farmers and farm women in touch with the best methods of getting the most use from electricity for their money. In this way project income and consumer income are built up together, and the Government's investment has double protection.

RURAL ELECTRICITY AND THE FUTURE

The REA has secured results for a number of reasons. It acts as a national coordinating center and clearing house, and can move with speed to bring the best features of one project to another project. It has reduced costs in electrical construction. Through use of a "mass-production" line building system, and by eliminating wasteful methods, construction costs have been lowered from the once familiar $1,500 to $2,000 a mile to less than $900.

Savings like this help to assure a project's success.

But something more than technical advance has been needed to string the wires of rural electrification —and that is the growth of the co-op spirit among farmers. The goal of electric self-service at cost has made many a farmer get busy for his community. Rural people have come into a new field with enthusiasm. Farmers can do more things with electricity than any other consumer group. And their enthusiasm grows because they now operate and will some day own outright their local REA CO·OP.

The rural America of today is far different electrically from the rural America of a few decades ago. The change has been marked even in the short period since the National Resources Committee's 1937 report. It is this steady growth of rural electrification that now gives farmers real hope for the future.

REA CO·OP electricity has brought to tens of thousands of farm families increased income, increased comfort, increased freedom from drudgery. In the

future it can bring the same benefits to thousands more. It has helped advance farm life to the twentieth century, and helped make the country as livable as the city. For many rural people it has turned electricity into a "public" utility in fact.

The REA brings one of the greatest forces of science to the farm of today, and is blazing a new path along the highlines toward the electrified farm of tomorrow.

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